

### Fitness Class Outline

What Is Exercise? Basically, there are three general types of exercise--occupational, recreational, and remedial. These, in turn, may be broken down into the following types: aerobic exercises place stress on the circulorespiratory system over a certain period of time, although not to the point where the body craves oxygen. Sustained effort such as jogging (not competitive running), rowing, or aerobic dancing are examples of aerobic exercise; anaerobic exercises are of shorter duration, but are much more vigorous in nature which do build up an oxygen debt. Examples of anaerobic exercise might be running dashes, competitive swimming, or handball; isometric exercises contract muscles without producing appreciable movement; isotonic exercises do produce movement, examples being calisthenics and weight lifting.

Occupational exercise may be a combination of one or more of the above types, but seldom provides the complete, balanced exercise necessary for good health. An activity that tires you is not necessarily a healthful one. A stone mason or a carpenter may well be tired at the end of a work day; his arms and legs may have gotten a thorough workout, but not his cardiovascular system.

Recreational exercises are often of too brief a duration or too specialized a nature to provide all the exercise that one requires. Tennis twice a week or weekend golf, even without a cart, are not enough. Indeed, occasional vigorous activity after prolonged periods

of sedentary existence are often more harmful than beneficial.

Jogging as recreation is a fine exercise, especially if followed by calisthenics and/or weight training.

Remedial exercise may be either that which is done to correct a physical problem (i.e. a bad back or an atrophied knee) or that which we hope will build up or reduce certain parts of the body. If it is general in nature and sensibly practiced, it may provide all the work your body needs for a healthy and rewarding existence.

Why, When, Where and How

Why? Sensible exercise properly executed will make you look better, feel better, and more capable of performing the mental and physical tasks which make up your life. If you find yourself falling asleep while preparing the income tax or trying to balance the family checkbook, a brisk walk or ten minute jog will make you sharper and more alert. If you have been a properly instructed weight lifter, chances are that you will never injure your back lifting a heavy trash can. I have no figures to support my theory, but I'd wager a considerable sum that few people who have been involved in a jogging program over a period of time have heart attacks while shoveling snow. Then, of course, there is vanity. A trim figure, firm muscles, and good posture will be more attractive as well as more healthful.

When? Fitness experts seem to feel that the best time to exercise is late afternoon or early evening. For a number of reasons many of us cannot or do not want to work out at that time. My advice is to

pick a time when you want to exercise and when you have the time to do a proper job of it. Attitude is very important. If the daily workout becomes more of a chore than a pleasure you will find yourself making excuses to skip it and that is the beginning of the end.

Where? For those of us that have access to the Fitness Room, that is no problem. The best place is one with adequate space, proper ventilation and temperature, sufficient and varied equipment as well as available instruction and advice. Walking and jogging, of course, may be done out doors or on the indoor track. Many health clubs offer even better facilities, but they also charge quite a bit and often require you to sign a contract. I do not advise this until you find yourself thoroughly involved in an exercise program and are reasonably certain that you will continue. The fact that you have invested four or five hundred dollars is not always enough to guarantee that you will go on.

How? The "how" part will occupy most of the course time. I will attempt to instruct you in what to wear and how to perform the various exercises that you decide to make a part of your program. First, however, we will deal with proper attire. There are two facts to keep in mind. The first is that fat hates heat. The parts that you wish to reduce should be warmly covered. If you wear nylon or rubber pants, however, the top part of your body should be uncovered enough to allow your skin to breath. Two piece rubber suits are

dangerous and should never be worn while running or exercising vigorously. The second thing to remember is that unless the work-out area is warm enough and you are dressed properly, muscles may get stiff and tight leading to strains and muscle pulls. During warm weather, provided that you stay out of drafts, lighter attire, such as T-shirts and shorts, may be worn.

In the matter of underclothing, once again it depends on the activity and its duration. Briefs may be of nylon or cotton, though care should be taken to avoid chafing. As for the bra, I quote from the March 1980 "Vogue": "Christine Maycock, M.D. trauma surgeon and associate professor of surgery at the New Jersey College of Medicine, believes the athletic bra to be a necessary piece of sporting 'equipment'." In a study of three hundred college athletic departments, she found nearly one-third of the women complained of discomfort to their breasts in association with sports. As a result of her findings, she's set forth certain, now widely accepted, specifications:

- a. The sports bra should provide good upward support.
- b. It should limit the motion of breasts relative to the body.
- c. It should be made of sturdy, absorbent, non-abrasive, non-elastic, easily washable fabric. (This depends on the amount of cotton in the fabric as opposed to synthetics which are non-water retentive.)
- d. Fasteners and other hardware should be covered to prevent abrasion; elimination of seams prevents skin and nipple irritation. (One of the reported complications apparently

well-known to women who run or jog braless: "jogger's nipples" and irritation of the nipple area caused by friction against a shirt). \*Note - men experience this, too, especially in cooler weather.

- e. Wide non-slip elastic straps to provide firm support. reduce chafing.
- f. Some provision should be made at the back of the bra to prevent "riding up."
- g. A pocket inside the bra should be provided for protective padding for contact sports. (Padding during contact sports is a matter of common sense. A blow to the breast not only hurts, but could cause a hematoma or blood clot, which might result in problems when nursing a child later, Dr. Haycock said.)

Individual needs are a critical factor in choosing a sports bra, the choice depending on the buyer's degree of participation and the sport. A serious competitive runner requires a bra different from the one worn by someone who runs a mile or two a day. Jogging, running, and horseback riding require a good deal of firm support. Tennis not only requires similar support but freedom of movement, as do golf, bowling, and skating. End of quote. In short--wear a bra while exercising--whether you ordinarily do or not. The laws of gravity and motion combine to stretch pectoral muscles in a manner you neither need nor want.

As for shoes, there is much to be said. If you don't intend to jog, almost anything or nothing will do. For those who run, remember that you only have one pair of legs and feet and they have to last you a long time. There are many fine shoes on the market and some absolutely awful ones. Before you shop, consider the following: How far and fast do you intend to run? Do you have any special foot problems? The person who plans on running no more than a mile a day doesn't need forty dollar racing flats. A person with feet that are flat, extra wide or narrow or mis-shapen should seek the advice of a competent athletic shoe salesman. All models don't suit all feet. The brand and model shoe worn by your brother-in-law who runs five miles a day may be a disaster for you. On one point I can be absolutely clear. Stay away from Corfam or other simulated leather. It is stiff and doesn't "breath." Avoid discount store specials from the local variety supermarket. Shoes that you get for five to ten dollars are fit to mow the lawn in and no more. Generally, you should expect to pay from twenty-five to forty-five dollars for good shoes. That may seem a lot, but remember, they'll last quite awhile and your feet and legs deserve the best. Supermarket specials are just shin splints incognito.

Unless you are a competitive runner and find that they hamper you, I recommend that you wear socks or "footies." They absorb perspiration which may make your feet slide around in the shoes, they add extra cushioning for comfort and help to keep your various

foot parts from rubbing on the inside of the shoe, especially the seams. As any experienced runner will tell you, distance running is rough on your pedicure. I also recommend white, absorbent tennis-type socks. Nylons or leotards bottoms with feet are not advisable if you intend to cover any distance.

#### Warmups and Stretching

I cannot overemphasize the importance of proper warmups. They will not only prepare your body for the more strenuous demands you will place upon it and help prevent muscle pulls and strains, but they will be an aid in better and more comfortable performance. We have all seen instances where a back or an end in pro football will get up off the bench and come into the game, run a pass pattern and pull up lame with a hamstring injury or a groin pull. The first practice of the softball season will find someone throwing the ball in from the outfield and his arm out for the season.

Breathing. Considering that it is just about the first thing we ever do in life, it is remarkable how few of us ever learn to breathe properly. If you are winded after climbing a flight of stairs or get a stitch in your side while jogging, chances are it is due to improper and incomplete use of your breathing apparatus. I quote, in part, from a book by fitness expert Ron Fletcher: "Oxygen, which we take from the air we breathe, activates our fueling systems.

The greater the intake of oxygen, the better the body's cells are nourished. Because most of us are stingy breathers, our system becomes undernourished. We cheat ourselves of life-giving oxygen by using less than half of our breathing ability.

Each of us is born with two fantastic apparatuses, called the lungs, located just inside the rib cage, which protects them. Like elastic sacs, the lungs, when full, hold about as much air as a basketball. Most of the time our lungs are never fully deflated or inflated. They have no muscles in themselves but are passive and expand only when the chest expands. This means that we must find and learn to use our thoracic muscles more, since when they are consciously used the chest opens up more fully and with it the lungs. More oxygen is taken into the system and more carbon dioxide put out.

When we see rib cages open and close, we know there is some good breathing going on. Unfortunately, we don't see that happen often enough, as most people breathe very shallowly in the high chest area just below the throat.

We have a world of people using about half of the breathing apparatuses and functioning at half their bodies' potential. It is through the blood that oxygen is transported to more than 75 trillion cells throughout the body. The average adult body contains about five quarts of blood, traveling 1,000 separate routes. The heart muscle pumps between 5,000 and 6,000 quarts of blood daily. This blood increasingly makes round trips through the body, circulating totally

about once per minute when we are still and five to six times per minute when we are active. As the blood courses through, it not only totes oxygen but drops off used-up air (carbon dioxide) for elimination through the lungs, pores, kidneys, and colon.

Those five quarts of blood should flow through the circulatory system in a sharp, steady stream that reaches every little out-of-the-way capillary from head to toe. If it doesn't do that, it means that your circulation is not so hot, and neither is your oxygen delivery. We can help that along by moving and breathing more. Oxygen keeps you alive. How alive is up to you."

Repetitions and Sets. Repetitions are the number of movements of a given exercise, e.g. 15 sit-ups. A set is each group of repetitions that is performed without rest, e.g. three sets of 15 repetitions of bench press. It is best to perform weight exercises in three sets of between 8 and 15 repetitions with approximately two minutes rest between sets.

#### Warmups and Calisthenics

Neck. Lower chin to chest. Slowly raise chin inclining head back as far as it will go. Repeat 15-25 times. Keeping head level, turn face to the left as far as it will go. Slowly return to center, then turn to the right. Repeat 15-25 times.

Waist - With feet shoulder width apart and legs slightly bent, bend from the waist turning to touch fingers to the back of left

thigh. Turn to the center and bend to touch floor between the legs. Turn to the right and touch fingers to back of right thigh. Repeat as above. (Remain bent-over during the entire three count series straightening before beginning next repetition.)

Sides - With feet shoulder width apart push pelvis forward and place hands on hips. Bend to the right and bounce once. Bend to the left and bounce once. Repeat as above.

Backs of Legs and Sides - Stand with feet apart and back straight. Using first one arm and then the other, reach as high as you can. Do this for eight counts. Then, bending forward as far as possible, bob for eight counts. Try to get head between knees. Repeat series five times.

Thighs, Buttocks, Calves and Posture - Stand with feet apart - legs and feet turned out, keeping your back as straight as you can with shoulders relaxed. Clasp your hands in front of you and count to four as you lower your torso to a sitting position. Count slowly to four as you come back up to a standing position. Do eight times and on your last count hold your sitting position to a count of four before you come back up.

Legs and Buttocks - Lying on your back with your legs together, clasp your right knee to your chest for four counts. Extend your leg as straight as possible with toes pointed, then pull toward you for four counts. Flex your foot and pull it as close to the floor as possible for four counts. Do four times each leg.

Stomach and Inner Thighs - Lie on back with legs raised 90°, then spread into as wide a Vee as possible. Swing each leg as wide as possible in a half circle till legs come together about six inches from the floor. Without touching floor raise legs to first position. Do eight times.

Hips, Waist, and Buttocks - On hands and knees extend your right leg straight out to the side. Make eight forward circles. Bring leg back into place. Extend leg again and make eight backward circles. Repeat series with same leg and switch.

Abdomen - Support yourself in a half sitting position with your arms behind you. Begin with the legs a few inches off the floor-- make sure to hold stomach in. Do a scissor kick (when one leg is pointed toward ceiling, the other is straight out a few inches off the floor.) Changing legs quickly, making sure you do not touch the floor, repeat fifteen times each leg.

Upper Arms and Bust - Standing erect, lift your arms from your sides over the head with palms facing behind you; turn palms forward and bring arms down. Do the same thing again lifting your arms overhead, only this time with your palms reversed. Repeat 15 times.

Stand up straight, extending arms straight in front of you at shoulder level and touch palms. Reverse palms and extend arms out to the side. Repeat thirty times.

Using 3-5 pound dumb-bells, stand up and bend forward at the waist, weights in both hands and arms perpendicular to the floor. Keeping your back flat and your stomach in, hold weights so that palms face each other. Lift arms to shoulder level and down. Repeat 10-12 times.

Thighs - Standing in a normal walking position, feet slightly apart and hands on hips, take a lunging step with the right leg behind, being sure to keep the left foot flat on the floor. Bring the right leg back in a sliding motion. Repeat 15 times, each leg.

Back Builder

Lower Back - Prone on floor, make cushion for chin with hands. Keeping one leg on floor, raise other from hip, alternate each leg 5 times. Do not roll from side to side. Raise both legs, try to have thighs clear floor, hold as long as possible.

Upper Back - Prone on floor, arms out in front. Raise arms (keep straight), first left, then right, alternate 5 times. Do not roll from side to side. Raise both arms, try to left chest from floor, hold as long as possible.

Upper and Lower Back - Prone, arms and legs straight. Raise right arm and right leg; left arm and left leg; right arm and left leg, left arm and right leg. Raise both arms. Raise both arms and legs.

Hamstring Stretch

Standing, feet apart, hands locked behind back. With knees stiff, head up, bend over from waist, bounce trunk forward and down. Eight bounces to center, 8 bounces to right, 8 bounces to left.

Spine, Inner Thigh, Lower Back and Hip Loosener

Seated on floor, draw feet close to body and place soles of feet together. Holding the ankles with hands, press downward on knees with elbows, trying to push knees as close to the floor as possible.

Inner Thigh and Torso Stretch - Seated on floor, open right leg directly to side, left leg bent in. Grasp extended leg with both hands, keeping extended leg straight, try to pull head to knee. Eight bounces--reverse and do other side.

Spine Flexor - On hands and knees, right leg extended. Bend right leg, place chin on chest and bring head and knee together until knee touches nose. Lift chin, straighten and extend right leg directly out in back, keep arms straight at all times. Do 8 times on each side. This exercise is very rhythmic--as you do several repetitions, the leg develops a swinging motion.

Middle Muscles Strengtheners

Demi Sit-up - Seated, chin to chest, knees bent, feet on floor fairly close to body, arms outstretched. Slowly roll out until shoulders barely clear floor--hold 5 counts, continue to roll out until head and shoulders are on floor. Get back into starting position any way you can. Repeat 5 times.

Proper sit-ups that will not cause lower back problems are done in the following fashion. Lying prone, legs together, knees

bent approximately 30°, feet may or may not be anchored. Hands may be behind the head or neck or crossed over upper chest. Chin is tucked into chest. The head and tops of the shoulders should not touch mat or floor at any time. Begin with 8-10; work up to 3 sets of 15-20.

Leg Drop (spine straightener) - Lie supine, knees to chest, hands on floor off hip area--make sure spine is on floor. Stretch legs straight upward on count 1 and 2; on count 3 and 4 return to knee-chest position. Stretch legs again and slowly lower 6", tighten buttocks, return knees to chest--make sure that knees are locked and toes pointed when legs are extended. Repeat 5 times. Make an effort to always tighten buttocks when standing, this will improve posture and help to keep legs, feet and lower back from tiring.

#### Weight Training

Weight training for women is perhaps the most misunderstood of all the exercise programs extant. It conjures up the image of some husky female built like a linebacker heaving a heavily laden barbell into a Military Press or, in the other extreme, some dainty miss in a leotard waving two cute pink beauty bells weighing three pounds each through a few dozen repetitions because a magazine she read at the beauty shop said that's all she needed to do to get in the best of condition. I will try to replace the myths with facts and show why many women can benefit from a sensible program of weight training.

1. Won't weight training make my bulky, muscular and unfeminine looking?

Fact: Not necessarily. Women's muscles are longer and usually thinner than those of the male. Bulk and bulging muscles are the result of working with quite heavy weights for many repetitions and many sets over a considerable period of time. This concentrated hard work and overloading tears down the muscle tissue, which when it rebuilds, is stronger and thicker. It is axiomatic that heavy weights, low to moderate reps and many sets build bulk, while lighter weights and many reps tone muscles and build endurance. If you pursue a sensible program of progressive weight training you will become stronger and firmer, but no bulkier.

2. I've tried lifting and after a workout I can feel the muscles swelling and growing.

Fact: What you felt was the tightness and fatigue caused by blood suffusing the area being exercised. Especially if you have rushed through the repetitions you will feel pumped up and tired since the blood has swollen the muscle tissue and this blood is lacking in oxygen allowing the build up of Lactic (fatigue) acid. The feeling will usually subside within a few minutes--no more than twenty.

3. I've been working with the Universal Gym Machine for three years and haven't noticed any improvement.

Fact: I've noticed you during your workouts. They tend to be haphazard and incomplete, without consistency in sequence. You never increase

the repetitions or the amount of weight you are using and, despite my offers of assistance, you perform many of the exercises incorrectly.

4. I have big hips and heavy thighs. Will a program of light weights and high repetitions make them slimmer and more shapely?

Fact: If the size is due to soft, flabby fat and if you are not naturally big-boned, you should derive some benefit from such a program. If, however, the unwanted bulk is pretty firm and solid, no amount of weight training will help and indeed may make those areas even more solid. In such cases the only remedy, and this is not guaranteed, is an extended dietary program. I cannot emphasize too strongly that such a program should be approved by your physician.

5. Can I help my posture through weight training?

Fact: Most certainly. Exercises will be included and demonstrated in this course that will help to square shoulders and strengthen lower back muscles--to eliminate slump and sway back. Again, and this is important, if you have a chronic back problem the exercises should be shown to your doctor BEFORE you practice them.

6. I hate running and calisthenic type exercises such as situps. Can I get all the exercise necessary for good health from a regular program of weight training?

Fact: Unfortunately, no. There is little or no benefit to your cardiovascular system in weight lifting and without flexibility movements you will be unhappy with both the Rep/Set and the Circuit Training systems of weight lifting.

7. If I don't want to build up anything and am not interested in becoming stronger, why bother with weight training?

Fact: You may not, but remember there is nothing wrong with being strong as long as you don't look that way. A strong back especially is most desirable in later life.

Rules for Sensible Weight Training

1. Warm-up. Even with light weights you should do your weight training after or in the midst of your free hand exercises.
2. When building, do more than one exercise per body part. Start with three sets of 8 - 10 repetitions at a weight that you can handle easily. When the last rep of the last set is becoming easy, increase the repetitions until you reach 15. Then increase the weight and drop back to three sets of 8. To reduce, increase the repetitions, but do not increase the weight until it becomes very easy. The rules regarding sets and reps given above apply only to the upper body (arms, shoulders, upper and lower back and chest.)
3. With the exception of the leg press and thigh/knee stations on the Universal where the weights should be kept moderate, but may be increased, exercises for hips, thighs and buddox will be done with three pound leg weights with repetitions from 15 - 25. The number of sets depends on how much you need to firm and reduce AND how much you want to. When working the legs do not lift before running and exercise prudence when increasing the weight used. Calves, especially tend to become bulgy and hips/thighs thicker when excessively heavy weights are used. To reduce, increase repetitions, not weight.
4. If you are very tired, ill, or have a pain, do not lift. Pain doesn't mean the stiffness or slight soreness you may experience when you begin training. That is just an indication that your muscles aren't

used to what you're asking them to do. I am referring to muscle pulls, deep bruises, open wounds and the like. In general a good rule to follow is, "If it really hurts, don't do it."

5. Write up a program of what you plan to do (I'll help if you like) and follow it for at least six weeks, before changing. This will enable you to follow a set routine and sequence and also to monitor the results.

6. Do not lift every day, especially if you are following the Set/Rep program. Lift three times a week--Monday, Wednesday, and Friday, for example, choosing different exercises for each day. You might work the chest and upper arms on Monday; upper and lower back on Wednesday; and hips, legs, and buttocks on Friday. When limited time is available, this enables you to work each area thoroughly and allows sufficient time for the tired muscles to rest between sessions.

Some Suggested Weight Exercises

1. Shoulder Shrugs	Dumbbells	Shoulders (posture)
2. Side Lateral Raises	Dumbbells	Shoulders
3. Side Bends	Dumbbells (heavier)	Midsection
4. Bench Press	Universal	Chest (lifts and firms)
5. Flyes	Dumbbells or wall wts.	Chest same
6. Deep Breathing Pullovers	Dumbbells or bar	Chest and Ribcage
7. Bent Over Rowing	Universal or D'bells	Upper Back and shoulders
8. Stiff Legged Dead Lift	Universal	Lower Back
9. Lat Bar Pulldowns	Universal	Upper Back and shoulders
10. Tricep Pressdown	Universal	Upper arms
11. Wrist Curls	Universal	Wrists and Forearms
12. Leg Press (lower pedals)	Universal	Toes out for inner thighs; toes in for outer thighs
13. Leg Press (upper pedals)	Universal	Thighs and hips
14. Side Lying Leg Raise	Leg Weights	Hips and buttocks
15. Kneeling Back Leg Kick	Leg Weights	Hips and buttocks
16. Back Lying Alternate	Leg Weights	Lower Abdominals
17. Back Lying Leg Raise and scissors	Leg Weights	Lower Abdominals
18. Shoulder Press, seated	Universal	Upper back and shoulders
19. Calf Raises (sitting & standing)	Universal	Calves
20. Quadricep Extension	Universal	Knee and Thighs
21. Quadricep Flexion	Universal	Thighs (back of)

Programs

1. Set/Rep System. The participant chooses the exercises to be performed on a given day and does them in the following manner. The first exercise is done for the predetermined number of repetitions and after resting is repeated for two additional sets. Rest between sets should not exceed two minutes. After a five-minute break, during which some other exercise such as situps may be performed, the participant moves on to the next weight exercise done in the same fashion. This system is most useful in building.

2. Circuit Training. After choosing the exercises to be performed (taking care that the same major muscle groups are not used sequentially) the participant moves around the machine to the different stations doing the exercises with little or no rest in between. Three complete circuits should be done. For example, Bench Press, Leg Press, Lat Pulldown, Dead Lifts, Quadricep Extensions, Calf Raises, constitute one set. Then back to the Bench Press, etc., to complete two more circuits. This method is most useful in reducing.

In General:

It is sometimes desirable with both the Set/Rep System and the Circuit Training System to drop down in weight with the second and third sets. An example might be: Bench Press 60 x 10, 50 x 10, 40 x 10 for the three sets. Some prefer to decrease the Repetitions as: 60 x 12, 60 x 10, 60 x 8. These methods are especially useful for beginners.

Remember, however, that there should be some effort involved. If you use the same weight and the same number of repetitions month after month and year after year, you aren't even maintaining your muscular condition. When your muscles get used to handling a certain effort, they stop improving. You might compare it to an exercise program which consists of a daily three block walk to the grocery store. It's a little better than nothing, but not much.

STATINTL

Approved For Release 2002/05/07 : CIA-RDP85-00375R000400110070-0

Approved For Release 2002/05/07 : CIA-RDP85-00375R000400110070-0